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EXAMINER

ROMANO, JOHN J

ART UNIT	PAPER NUMBER
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2192

DATE MAILED: 08/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/054,174

Applicant(s)

SHIRLEY ET AL

Examiner

John J. Romano

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 23 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Remarks

1. Applicant's amendment and response received May 23rd, 2005, responding to the December 22nd, 2004, Office action provided in the rejections of claims 1-21, wherein claims 1, 3, 6, 10, 16 and 18 have been amended. Claims 1-21 remain pending in the application and which have been fully considered by the examiner.

The claim objection per Claims 16 and 18 are withdrawn according to Applicants correction.

Applicant arguing for the claims being patentable over Nilsson et al. in view of Applicants admitted prior art (see pages 11-15 of the amendment and response) primarily based on assertions on page 13, second paragraph, where applicant contends that independent claims 1, 3, 6, 10, 16 and 18 are not anticipated by *Nilsson*, as *Nilsson* does not discuss how the third set of instructions is updated with the versions of software with each software replacement and that each version of the third set of instructions that is used by each device in the de-centralized arrangement is to be updated, as amended, and arguments pertaining to the dependent claims are not persuasive, as will be addressed under Prior Art's Arguments – Rejections section at item 2 below. Accordingly, Applicants' amendment necessitated additional clarifications, in light of the rejection of the claims over prior art provided in the previous Office action, to further point out that Nilsson also discloses as such claimed limitations as now amended which will be provided and/or addressed under the item 2 below.

Thus, the rejection of the claims over prior art in the previous Office action is maintained in light of the necessitated additional clarifications provided hereon and **THIS ACTION IS MADE FINAL**. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Prior Art's Arguments – Rejections

2. Applicant's arguments filed May 23rd, 2005, in particular on pages 11-15, have been fully considered but they are not persuasive. For example,

(1) As to the argument that *Nilsson* does not discuss how the third set of instructions is updated with the versions of software with each software replacement, as the instance application has recited and/or indicated in claims 1, 3, 6, 10, 16 and 18 as amended, the examiner strongly disagrees. *Nilsson* explicitly discloses "...wherein during software replacement the third set of instructions in each of the plurality of devices in the first subset and the second subset is updated such that each of the plurality of devices knows which version of software from the first version and the

second version is operating on all of the plurality of devices...", (E.g., see Figure 5 & Column 13, lines 45 - 56), wherein every time an object is created (or installed) for a specific interface (third set of instructions included in each kernel) an object pointer is published (updated) through the interface. Moreover, *Nilsson* teaches the present invention is able to properly direct both ordinary, live traffic and test traffic to the proper version of software. The fact that *Nilsson* teaches test software does not imply that *Nilsson* can't perform a software upgrade or downgrade. In fact, *Nilsson* expressly discloses a method that enables the runtime inclusion of new software (Column 19, lines 55-62), with old software to be both effectively tested in real-time as well as to be smoothly and transparently substituted (software replacement or upgrade) in a telecommunications network. Therefore, *Nilsson* does explicitly disclose "...wherein during software replacement the third set of instructions in each of the plurality of devices in the first subset and the second subset is updated such that each of the plurality of devices knows which version of software from the first version and the second version is operating on all of the plurality of devices..." as amended.

(2) Accordingly, Independent claims 10, 18 and 19 are not patentable over *Nilsson* for at least the reasons discussed above. As to the argument that *Nilsson* does not discuss that each version of the third set of instructions that is used by each device in the de-centralized arrangement is to be updated as the instance application has recited and/or indicated in claims 1, 3, 6, 10, 16 and 18 as amended, and the argument that *Nilsson* does not discuss the issues present in a de-centralized environment, the examiner strongly disagrees. Accordingly, the response as addressed above is applied

to the current argument as all interfaces accessible to the linked procedure call are published to a trader function in the kernel, where each kernel has a trader function or third set of instructions which comprises an updated interface via the updated pointer to the created or upgraded object, which may be in a de-centralized arrangement (see figure 11), wherein (Column 19, lines 36-54), distributed objects and communications among different processors (de-centralized arrangement) is disclosed. Moreover, Nilsson discloses (Column 19 55-62), the "...present invention enables the runtime inclusion or linking of new software with old software in a manner that enables software to be both effectively tested in real-time *as well as to be smoothly and transparently substituted in a telecommunications network and switching system without disruption of the telecommunications traffic within the network*" (emphasis added). Thus, the version of software may be available on the specific device or on another device within the subset in order for continued proper operation, the third set of instructions is updated as addressed above, each time the software is updated on any device. Therefore, Nilsson discloses that each version of the third set of instructions that is used by each device in the de-centralized arrangement is to be updated and the issues present in a de-centralized environment where issues that occur as software is updated across a plurality of devices where one device may need to acquire and use software that resides on a different device as the instance application has recited and/or indicated in claims 1, 3, 6, 10, 16 and 18 as amended.

(3) As claims 2, 7, 12-13, 15 and 17-18 depend upon independent claims 1, 6, 10 and 16 and include all the limitations of the independent claims, the rejection as

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addressed above and disclosed below are maintained as being obvious over Nilsson in view of the admitted prior art. Therefore, the examiner maintains and further clarifies the rejections of claims 2, 7, 12-13, 15 and 17-18. Similarly, claims 3, 4, 8 and 9 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Nilsson in view of the prior art cited in the application and further in view of United States Patent No. 6,186,734 to Saboff et al as addressed above in Examiners response to Applicant's arguments and below in the Claim rejections. Likewise, claims 5, 14 and 19-21 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Nilsson in view of the prior art cited in the application and further in view of United States Patent No. 6,186,734 to Saboff and further in view of obviousness as addressed above in Examiners response to Applicant's arguments and below in the Claim rejections.

Claim Rejections

Claims 1-31, are pending claims, and stand finally rejected in light of the additional clarifications provided and/or addressed at item 2 above, Prior Art's Arguments – Rejections, as disclosed below.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims **1, 2, 6, 7, 10-13** and **15 - 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Nilsson et al., US 5,410,703 (hereinafter **Nilsson**) in view of applicants admission of prior art, (hereinafter **APA**, see background art, pages 1-4).

3. In regard to claim **1**, **Nilsson** discloses:

- *"A component of a communications network capable of maintaining service interoperability during a software replacement, the component comprising: a plurality of devices, each device comprising: a processor coupled to the communications network; a memory coupled to the processor...", (E.g., see Figure 11 & Column 19, lines 55 - 62), wherein it is inherent that a network comprises a plurality of devices, each device having a processor and memory coupled to the network.*
- *"...at least one first set of instructions stored in the memory and adapted to cause the processor to perform a logically de-centralized processing function; at least one second set of instructions stored in the memory and adapted to cause the processor to request the performance of one of the logically de-centralized processing functions by one of the first set of instructions stored in the memory of one of the devices; and a third set of instructions stored in the memory and adapted to cause the processor to bind the second set of instructions*

requesting the performance of the logically de-centralized processing function to the one of the first set of instructions...", (E.g., see Figure 5, 7 & Column 13, lines 18 - 27), wherein Figure 5 shows that a caller or client, the second set of instructions, requests software or first set of instructions, and is directed by the Call ID via a pointer or a third set of instructions.

- *"...an internal network coupled to the plurality of devices and adapted to facilitate the communication of data between the devices..."*, (E.g., see Figure 11 & Column 19, lines 36 - 54), wherein the definition of a network is two or more computers linked together with a communication link.
- *"...wherein during a software replacement the first and second sets of instructions of a first subset of the devices operate under a first software version and the first and second sets of instructions of the devices not in the first subset of devices operate under a second software version..."*, (E.g., see Figure 5 & Column 3, lines 50 - 60), wherein TEST and NORMAL are two different subsets operating under two different versions of software.
- *"...wherein during software replacement the third set of instructions in each of the plurality of devices in the first subset and the second subset is updated such that each of the plurality of devices knows which version of software from the first version and the second version*

is operating on all of the plurality of devices...", (E.g., see Figure 5 & Column 13, lines 45 - 56), wherein every time an object is created (or installed) for a specific interface (third set of instructions included in each kernel) an object pointer is published (updated) through the interface, wherein the method enables the runtime inclusion of new software (Column 19, lines 55-62), with old software to be both effectively tested in real-time as well as to be smoothly and transparently substituted (software replacement) in a telecommunications network.

- "... wherein the third set of instructions of the first subset of devices cause the processors of the first subset of devices to bind the second sets of instructions requesting logically de-centralized processing functions to first sets of instructions of the devices in the first subset of devices; and wherein the third set of instructions of the devices not in the first subset of devices cause the processors of the devices not in the first subset of devices to bind the second sets of instructions requesting logically de-centralized processing functions to first sets of instructions of the devices not in the first subset of devices." , (E.g., see Figure 7 & Column 14, lines 28 - 36), wherein the third set of instructions, the trader, is a set of instructions which inherently causes the processor to bind the class template, second set of instructions with the appropriate software, or first set of instructions.

Nilsson does not expressly disclose a rolling conversion. However, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to continue to map the different versions of software via the trader, as disclosed by **Nilsson**, in a rolling conversion as disclosed in the background section by the **APA**, (Page 2, lines 23-29). The motivation to do so would have been to avoid a period of downtime in a telecommunications network, which can be very expensive, (**Nilsson**, Column 3, lines 20 – 24).

1. In regard to claim **6**, the rejection of base claim **1** is incorporated as described above, as claim **6** is a product version of the system of claim **1**. But **Nilsson** does not expressly disclose "...and one of the plurality of devices of the component via the internal network...". However, it is deemed obvious as a design choice to include other devices in the registry as the local domain. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include other devices in the registry in each device as opposed to the registry only including the immediate processor and a central location. The motivation to do so would have been because it would be efficient to have only one copy of the data among common platforms as is commonly employed in network systems.

2. In regard to claims **2** and **7** the rejections of base claims **1** and **6** are incorporated, respectively, as described above. Furthermore, **Nilsson** discloses:

- "... *one fourth set of instructions* stored in the memory and adapted to caused the processor to perform a logically *centralized processing function* and the at least one second set of instructions stored in the

memory further adapted to cause the processor to request the performance of one of the logically centralized processing functions by one of the fourth set of instructions stored in the memory of one of the devices, and wherein during the software replacement the third set of instructions of the devices cause the processors of the devices to bind the second sets of instructions requesting logically centralized processing functions to fourth sets of instructions of the devices.” ,
(E.g., see Figure 11 & Column 18, lines 55 - 68).

Nilsson does not expressly disclose centralized processing functions. But at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to include a fourth set of instructions to include “centralized services” in a telecommunications network as also disclosed in the background section by the **APA**, (Page 3, lines 15-23 The motivation to do so would have been to reap the efficiency benefits of a network system including time and money.

3. In regard to claim **10**, claim **10** is a method version of the product of claim **6**. Thus, the rejection of base claim **6** is incorporated as described above. But **Nilsson** does not expressly disclose “...implementing a clustered architecture...”. However, the **APA** discloses:

- “...implementing a clustered architecture...” (E.g., see page 1, lines 28-30).

Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to implement a clustered architecture. The motivation to do so

is that "...a clustered architecture facilitates transitions", as also disclosed by the **APA** in the background section, (see page 1, line 26).

4. In regard to claim **11**, the rejection of base claim **10** is incorporated as described above. But **Nilsson** does not expressly disclose "...repeating the installing and configuring steps until the new release of software is installed on all the devices."

However, the applicant discloses:

- "...repeating the installing and configuring steps until the new release of software is installed on all the devices.", (E.g., see page 2, lines 23-29), wherein the process is referred to by the applicant as a rolling conversion.

Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to implement a rolling conversion with **Nilsson's** method to maintain service. The motivation to do so would have been because "...it would be highly useful within the telecommunications industry to be able to test and change software during actual operation of the telecommunications switch without disrupting ongoing telecommunications traffic through the system.", (E.g., see **Nilsson**, Column 3, lines 25 - 29).

5. In regard to claim **12**, the rejection of base claim **10** is incorporated as described above. But **Nilsson** does not expressly disclose "...the installing step comprises installing the new release of software on one-half of the devices." However, the applicant discloses:

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- "...the installing step comprises installing the new release of software on one-half of the devices." (E.g., see page 2, lines 16-22), wherein, the applicant discloses a split-mode conversion.

Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to implement a split-mode conversion with **Nilsson's** method to maintain service. The motivation to do so would have been because "...it would be highly useful within the telecommunications industry to be able to test and change software during actual operation of the telecommunications switch without disrupting ongoing telecommunications traffic through the system.", (E.g., see **Nilsson**, Column 3, lines 25 - 29).

6. In regard to claim **13**, the rejection of base claim **10** is incorporated as described above.

7. In regard to claim **15**, the rejections, of base claim **10** and claim **2**, are incorporated as described above.

8. In regard to claim **16**, claim **16** is a method version of the product claim **6**; thus, the rejections of claim **6** are incorporated as described above.

9. In regard to claim **17**, the rejections of base claim **16** are incorporated.

Furthermore, the rejections of claim **6** are incorporated as described above.

Furthermore, Nilsson discloses:

- "...the request being issued by an application of a device not in the first subset of devices...", (E.g., see Figure 6 & Column 13, lines 37 - 56),

wherein it is obvious in a network architecture that the request to the trader could be issued from any device included in the network .

Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine multiple devices with the trader interface. The motivation to do so would have been to include a network in the "telecommunications system", (**Nilsson**, page 4, line 59).

10. In regard to claim **18**, claim **18** is a method version of the product claim **7**; thus, the rejections of claim **7** are incorporated as described above. Additionally, it is inherent that the global service which performs the logically centralized processing function requested by the application is determined if the requested function is to be performed by the global service. Furthermore, if the application requesting the service is bound to the service it is inherent that the service will be performed by the global service in order to make the system productive and efficient. This is obvious as the purpose of this method is to "...change software during actual operation of the telecommunications switch without disrupting ongoing telecommunications traffic through the system.", (E.g., see **Nilsson**, Column 3, lines 25 - 29).

11. Claims **3**, **4**, **8** and **9** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Nilsson** in view of **APA**, as applied in claims 1 and 6 above, and further in view of Saboff et al., US 6,185,734 B1 (hereinafter **Saboff**).

12. In regard to claim **3**, the rejection of base claim **1** is incorporated as described above. But, the combination of **Nilsson** and **APA**, do not expressly disclose a third software version. However **Saboff** discloses:

- "...operate under a third software version...", (E.g., see Figure 4 & Column 5, lines 22 - 44), wherein three software versions are used in the same system.

At least, **Nilsson** and **Saboff** are analogous art as they are both concerned with the same field of endeavor, namely a registry database for managing more than one version of software on the same system. Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine a third version of software with **Nilsson's** invention of maintaining service interoperability while replacing software. The motivation to do so would have been because "...it would be highly useful within the telecommunications industry to be able to test and change software during actual operation of the telecommunications switch without disrupting ongoing telecommunications traffic through the system.", (E.g., see **Nilsson**, Column 3, lines 25 - 29).

13. In regard to claims **4** and **8** the rejection of base claims **1** and **6** are incorporated as described above. But the combination of **Nilsson** and **APA** do not expressly disclose a registry database. However, **Saboff** further discloses:

- "... a registry database for storing information relating to the first sets of instructions stored in the memories of the devices, and wherein the third set of instructions stored in the memories of the devices are

adapted to cause the processor to determine the one of the first set of instructions to which to bind the second set of instructions requesting the performance of the logically de-centralized processing function based on information stored in the registry database.”, (E.g., see Figure 4, 5 & Column 5, lines 22 - 44), wherein the application is the client or second set of instructions, requesting the appropriate version of software or first set of instructions, and the registry is the database or third set of instructions, which causes the binding based on the rules stored in the registry database.

Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine a registry database with **Nilsson’s** invention of maintaining service interoperability while replacing software. The motivation to do so would have been because a registry is “...easy to manage due to its centralized nature” as taught by Saboff, (E.g., see Figure 5 & Column 3, lines 2-3).

14. In regard to claim 9, the rejection of base claim 6, and claim 8 are incorporated as described above.

15. Claim 5, 14, 19, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Nilsson** in view of **APA**, as applied in claims 1, 10 and 16 above, and further in view of **Saboff** and further in view of obviousness.

16. In regard to claim 5, the rejection of base claim 1 and claim 4 is incorporated as described above. But, at least, **Nilsson** does not expressly disclose “...wherein each of

the devices further comprises a registry database stored in the memory...". However, it would become apparent to one skilled in the pertinent art at the time the invention was made to include a registry in each device as opposed to one registry in a central location. The motivation to do so would have been because it is efficient to have the interface at the client level in order to use local data as well as global data.

17. In regard to claim **14**, the rejections of base claim **10** and claim **5** are incorporated as described above. But, at least, **Nilsson** does not expressly disclose "...a name service...". However, **Saboff** further discloses:

- "...a name service..." (E.g., see Figure 4 & Column 5, lines 22 - 44), wherein multiple versions of software are managed via a hierarchical registry and rules which are interpreted as the name service.

Therefore, at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine a name service with **Nilsson's** invention of maintaining service interoperability while replacing software. The motivation to do so would have been because a naming service would enable one to manage multiple versions of a software library resulting in efficient, time-saving execution as taught by **Saboff**, (E.g., see Figure 3, 4 & Column 5, lines 15-25).

18. In regard to claim **19**, the rejection of base claim **16** is incorporated. Furthermore the rejections of claims **4** and **8** are incorporated as well. Thus, the corresponding limitations of claim **19** are met as argued in the above claims.

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19. In regard to claim **20**, the rejection of base claim **16** is incorporated. Furthermore the rejections of claims **5** and **14** are incorporated. Thus, the corresponding limitations of claim **20** are met as argued in the above claims.

In regard to claim **21**, the rejections of base claim **16** and claim **14** are incorporated as described above.

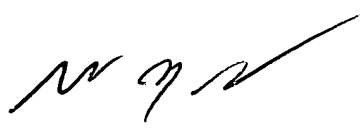
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Romano whose telephone number is (571) 272-3872. The examiner can normally be reached on 8-5:30, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JJR


WEI Y. ZHEN
PRIMARY EXAMINER